

**STANDARD OPERATING PROCEDURE NO. ~~612~~**  
**CORE PROCESSING**

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## ATTACHMENTS

CORE LITHOLOGY/DESCRIPTION FORM  
SAMPLE PROCESSING FORM

### 3.0 PURPOSE AND SCOPE

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The purpose of this document is to define the standard operating procedure (SOP) for processing of the cores collected as part of the Newark Bay Study Area Phase III Quality Assurance Project Plan Amendment (Phase III QAPP) ~~Remedial Investigation Work Plan (Phase II RIWP)~~. Core processing includes observational and photologging of cores, and the collection of samples for grain size and, chemical analyses, ~~and radiochemical analyses~~. Core processing will be conducted to meet the sample collection and analysis objectives defined in the Phase III RIWP/QAPP.

This SOP may change depending upon field conditions at Newark Bay or limitations imposed by the procedure. Substantive modification to this SOP shall be approved in advance by the Facility Coordinator (FC) and the United States Environmental Protection Agency (USEPA) Remedial Project Manager. The ultimate procedure employed will be documented in the Newark Bay RI Report.

Other SOPs will be utilized in conjunction with this SOP, including:

- SOP No. 1-3 – Decontamination;
- SOP No. 4 – Management and Disposal of Residuals;
- SOP No. 5 – Containers, Preservation, Handling, and Tracking of Samples for Analysis;
- SOP No. 8 – Documenting Field Activities; and
- SOP No. 11 – Sediment Collection Using Vibracoring Device.

## 4.0 PROCEDURES

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Cores will be processed in accordance with the procedures outlined below.

### 4.1 EQUIPMENT LIST

The following equipment list contains materials which may be needed in carrying out the procedures contained in this SOP. Not all equipment listed below may be necessary for a specific activity. Additional equipment may be required, pending field conditions.

- personal protective equipment (PPE) and other safety equipment, as required by Phase II RIWP HASCP [Rev. 1] (Tierra, 2007);
- sample processing table;
- project Quality Assurance Project Plan
- logbook and associated Core Lithology/Description Forms and Sample Processing Forms;
- ruler or measuring tape;
- ~~hacksaw and spare decontaminated blades;~~
- table of target sample location coordinates;
- ~~electric sheet metal shears or similar;~~
- sampling equipment: stainless steel spoons, spatulas and bowls;
- sample bottles for chemical and radiochemical analyses;
- refrigerator, at 4°C;
- digital camera with flash;
- EnCore samplers and T-handle or equivalent;
- ~~stainless steel dividing blades/knives;~~
- turkey baster
- Unified Soil Classification System (USCS) Charts;
- photoionization detector (PID) (with calibration kit);
- core storage rack or cooler to hold cores vertical and keep cold prior to either processing or placement in a refrigerator;
- grease pencil;
- appropriate waste disposal equipment; and
- scales to weigh sediment cores and samples.

## 4.2 PROCEDURE

The core processing procedure presented in this SOP is a multi-step process. ~~The exact procedures and steps will depend on whether the core contains high water content sediments (i.e., material that would slump if placed horizontally). In advance of processing, each core will be visually inspected to determine if it contains high water content sediments, and consequently, whether it can be processed horizontally or vertically. Cores will then be logged and photographed, and samples will be collected and submitted for chemical, and radiochemical analyses.~~

### 4.2.1 DECONTAMINATION OF EQUIPMENT

Decontamination of equipment prior to contact with sediment will be performed in a designated decontamination area. The decontamination will be performed in accordance with procedures outlined in SOP No. 1 – Decontamination. Equipment decontamination will be conducted sufficiently ahead of the processing activities to allow for the implementation of proper procedures (including drying of decontaminated equipment).

### 4.2.2 PRELIMINARY ACTIVITIES PRIOR TO PROCESSING

These steps will be undertaken prior to core processing.

1. Acquire the necessary sampling equipment (e.g., decontaminated stainless steel processing equipment), containers, and label the sample containers with the appropriate sample labels.
2. Upon delivery of the core to the processing laboratory, a hard copy of the forms initiated for each core during coring operations, the Daily Activity Log, the Core Collection Form, and the Individual Core Collection Form, will be provided to the Sample Processing Area personnel (SOP No. 8 – Field Documentation). The Individual Core Collection Form will be signed by the coring personnel and the Sample Processing Area personnel. The Individual Core Collection Form will serve as the chain of custody document from the field to the Sample Processing Area.
3. Cores will be maintained in a vertical position in a core storage rack or cooler (capable of keeping cores cold) while in transit to the Sample Processing Area. At the Sample Processing Area, cores will be stored vertically and kept cold (in either the refrigerator, cooler, or core storage rack) prior to processing. The Sample Processing Area will be within a secure (i.e., locked) location, allowing for limited access.
4. Transcribe the pertinent field information from the Individual Core Collection Form to the Core Description Form.
5. Dry the surface of the core tube with clean paper towels and measure the length of sediment in the core tube.
6. Adjust the core segmentation scheme by calculating the percent recovery from the actual penetration and the length of sediment in the core tube. All segment lengths will be modified by this same percentage. For example, a core with 80% percent recovery would result in a planned 1-foot segment being modified to a 0.8-foot segment.

7. Following the segment adjustment described in Step 6, measure the length of sediment in each section of core, and compare to the length of sediment in each section as recorded during core collection. To account for differences in sediment length (if any) due to settling in individual sections of the core, further adjust the core segmentation scheme for each section of core by the percent difference in the length of sediment measured after core collection and prior to core processing.
8. ~~Keeping the core upright, use a hacksaw with a decontaminated blade or drill with a decontaminated drill bit to make a cut/hole in the core tube approximately 3 to 4 inches above the sediment to allow excess water to seep from the core tube. Continue to make cuts/holes in the core tube, lowering 1 inch each time until reaching the sediment/water interface. When all excess water has been drained from above the sediment/water interface, cut off excess core tube.~~
9. ~~Keeping the core vertical, remove top cap from the core to be processed. Visually inspect the sediment in the BAZ (0 to 0.5 feet below the sediment surface) and near-surface sediments to determine if they are high water content sediments. High water content sediments would slump if placed horizontally.~~
10. ~~If the BAZ and near-surface sediments are comprised of high water content sediments then the core will be processed as described in Section 4.2.3 below.~~
11. ~~If the BAZ and near-surface sediments are not comprised of high water content sediments, then the core will be processed as described in Section 4.2.4 of this SOP.~~

#### **4.2.3 CORE PROCESSING FOR HIGH WATER CONTENT SEDIMENTS**

~~As previously described, if the core contains high water content sediments, then the procedures outlined in this section will be used. The procedures involve keeping the core in a vertical position and then carefully removing the high water content sediments into a stainless steel bowl for processing or directly into the EnCore samplers (or equivalent) for VOC and TEPH-purgeables analysis. The cores cannot be placed horizontally until sediment of sufficiently low water content is reached, such that the sediment will not slump when placed horizontally on the core processing table. Note that a primary and secondary core (to provide additional sediment for the 0-6" segment) will may be collected at each location. Appropriate instructions for each group (radiochemistry, chemistry, and geotechnical) are provided within the following steps, as necessary.~~

##### For Cores Not Requiring Radiochemical Analysis ("shallow" cores — see RIWP):

1. With the primary core in the vertical position, mark the outside of the core tube with a grease pencil with the appropriate sample interval (0-6"), beginning at the sediment-water interface.
2. For VOC and TEPH-purgeables analysis, place sediment from the primary core into an EnCore sampler (or equivalent) until the sampler is full. Sediment for VOC and TEPH-purgeables analysis will be collected with three EnCore samples (or equivalent). Collect a sample for moisture content (for use in VOC analysis) from the same location as the VOC samples were collected. Collect the moisture content sample using a stainless steel utensil, and place in the appropriate sample container.

3. Remove all remaining sediment from the 0-6" interval in a ladling fashion using a stainless steel spoon without disturbing sediment in deeper segments. Place this sediment in a stainless steel bowl.
- ~~3.4. Remove all sediment from the 0-6" interval of the secondary core in a ladling fashion using a stainless steel spoon without disturbing sediment in deeper segments. Place this sediment in the stainless steel bowl used in Step 3.~~
- ~~4. Screen the sediment in the bowls with a PID and record in the Core Lithology/Description form.~~
5. Visually describe the sediments in the stainless steel bowls. Using the USCS record the description of the sediment type in the appropriate section of the Core Lithology/Description Form. Provide a description of approximate grain size (silt, clay, fine sand, medium sand, coarse sand, and gravel), the presence of observable biota or organic matter, odor, and color. Note any unusual observations in the appropriate column. Identify changes in lithology (such as soil type or grain-size) within the core. If changes in lithography are observed, then the approximate length of various layers will be noted. Changes in lithology will be separated with a line on the Core Lithology/Description Form.
6. Photograph the sediment in the stainless steel bowls. If foreign objects are present or unusual characteristics are noted, photograph the object or unusual characteristic. Make sure an adequate amount of light is available to photograph the sediment and include a photograph ID label and a ruler in the photograph.
7. Record a description of each photograph in a logbook. Descriptions will include photo number, date, time (24-hour format), core number, depth interval shown in picture, and photographer's name. Unusual observations will also be recorded.
8. Thoroughly mix (homogenize) the sediment in the center of the stainless steel bowl until color and texture differences are no longer detected. Collect samples for chemical ~~and geotechnical~~ analysis. Identify mass of sediment and compare to minimum analyte sample mass requirements listed in ~~Table 6-6 Worksheet 19-2 of the RIWPP Phase III QAPP. Should insufficient mass exist, default to the sample hierarchical prioritization prescribed in Table 6-6 of the RIWP.~~
9. Fill pre-labeled sample jars for remaining chemical ~~and geotechnical~~ analyses in accordance with SOP No. 9 – Containers, Preservation, Handling, and Tracking of Samples for Analysis. Confirm that the sample identification has been recorded in the Sample Processing Form.
10. If determined necessary by the Sample Processing Area personnel, the individual sample bottles may be weighed to ensure appropriate sample volume for lab analysis, as presented by Worksheet 19-2 of the Phase III QAPP ~~Table 6-6 in the RIWP.~~
- ~~11. Should insufficient sample mass exist from the primary core to fulfill all chemistry and geotechnical analyses outlined on Table 6-6 of the RIWP, remove all sediment from the 0 to 6-inch interval of the secondary core, place in a separate, clean stainless steel bowl, and homogenize until color and texture differences are no longer detected.~~
- ~~12. Fill pre-labeled sample jars for remaining chemical and geotechnical analyses, in accordance with SOP No. 9 – Containers, Preservation, Handling, and Tracking of Samples for Analysis. Confirm that the sample identification has been recorded in the Sample Processing Form.~~
13. Remaining sediment and core tube lengths will be ~~stored or~~ disposed of in accordance with SOP No. 7.4 – Management and Disposal of Residuals.

#### 4.2.4 CORE PROCESSING FOR NON-HIGH WATER CONTENT SEDIMENTS

As described above, if the core does not contain high water content sediments, then the procedures outlined in this section will be used. Appropriate instructions for each group (radiochemistry, chemistry, and geotechnical) are provided within the following steps, as necessary. The procedures involve:

Laying the core horizontal and splitting it lengthwise;

Screening the core with a PID;

Collecting samples for VOC, chemical, radiochemical and geotechnical analyses; and

Logging and photologging the cores.

Detailed procedures are as follows:

Transfer the core to the sample processing table.

Using the electric sheet metal shears (or other cutting device), make two longitudinal cuts along the core tube; one on each side. Open the tube lengthwise and carefully split the core in half. Decontaminated stainless steel dividing plates may be used to ensure equal sectioning.

Screen the core with a PID and record in the Core Lithology/Description Form one reading for every 0.5 foot of core screened.

Calculate sample intervals for chemical radiochemical, and/or geotechnical samples using the Sample Processing Form in accordance with the segments specified in Tables 6-2 and 6-4 of the Phase II RIWP, respectively. Mark the specified sampling interval ranges on the outside of the core tube.

Prior to collecting samples, transcribe the pertinent field information from the Individual Core Collection Form to the Sample Processing Form.

Isolate the smear zone (i.e., that material exposed to the core liner) of the segment to be sampled. Scrape the sediments exposed to the core liner and dispose in accordance with SOP No. 7—Management and Disposal of Residuals. If still within the core liner, sediment samples must be obtained such that material in contact with the liner is not collected for laboratory analysis. The material left in the core must be properly disposed of in accordance with SOP No. 7—Management and Disposal of Residuals.

Remove EnCore sampler (or equivalent) from bag immediately after smear zone removal. Hold EnCore sampler (or equivalent) coring body and push the plunger rod down until the small O-ring rests against the tabs. This will ensure that the plunger moves freely. Sediment for VOC analysis will be collected with three EnCore samplers (or equivalent).

Depress the locking lever on the T-handle. Place coring body, plunger end first, into the open end of the T-handle aligning the slots on the coring body with the locking pins on the T-handle. Twist the coring body clockwise to lock the pins in the slots. Check to ensure the EnCore Sampler (or equivalent) is locked in place.

Turn T-handle with T up and coring body down. Using the T-handle, push the sampler into the sediment in one half of the core tube until the coring body is completely full (when full, the small O-ring will be centered in the T-handle viewing hole). Remove the sampler from the sediment and wipe excess sediment from the coring body exterior.

Cap the sampler while it is still on the T-handle. Push cap over the flat area of the ridge and twist to lock the cap in place. The cap must be seated to seal the sampler. If the cap appears crooked, the locking arms are not fully seated over the coring body ridge. Remove the cap and reseal.

Remove the capped sampler by depressing the locking lever on the T-handle while twisting and pulling the sampler from the T-handle.

Lock the plunger by rotating the extended plunger rod fully counterclockwise until the wings rest firmly against the tabs.

Attach completed circular label (from the EnCore sampler [or equivalent] bag) over the cap.

Return the full EnCore sampler (or equivalent) to its bag, seal the bag, and place in transportation cooler on ice. Package and label the sample container following the procedures in SOP No. 9—Containers, Preservation, Handling, and Tracking of Samples for Analysis.

Continue collecting the VOC samples as described in Steps 7 through 14 for each segment of the core. Collect a sediment grab sample for moisture content from the same location as the VOC samples (for use in the VOC analysis). Collect the moisture content sample using a stainless steel utensil and place in the appropriate sample container.

With the core split open, visually describe the core. Using the USCS, record the description of the soil type in the appropriate section of the Core Lithology/Description Form. Provide a description of approximate grain size (silt, clay, fine sand, medium sand, coarse sand, and gravel), the presence of observable biota or organic matter, odor, and color. Note any unusual observations in the appropriate column. Identify changes in lithology (such as soil type or grain size) within the core. If changes in lithography are observed, then the approximate length of various layers will be noted. Changes in lithology will be separated with a line on the Core Lithology/Description Form.

Photograph the exposed section of the core. Include a ruler or measuring tape for scale, and mark the top and bottom and ends of the core. If foreign objects or gaps are present, or unusual observations are made, photograph the object or subject of the observations. Make sure an adequate amount of light is available to photograph core and include a photograph ID label in the photograph.

Record a description of each photograph in a logbook. Descriptions will include photo number, date, time (24-hour format), core number, depth interval shown in picture, and photographer's name. Unusual observations will also be recorded.

For each sample interval, collect sediment using a decontaminated stainless steel utensil and place in a decontaminated stainless steel bowl. Identify mass of sediment and compare to minimum analyte sample mass requirements listed in Table 6-6 of the RIWP. Should insufficient mass exist, default to the sample hierarchical prioritization presented in Table 6-6 of the RIWP.

Note that according to Tables 6-2 and 6-4 in the RIWP, chemistry and radiochemistry samples intervals do not always align. In cases where the chemistry and radiochemistry sample intervals do not align, transfer sediment from each half of the core to separate stainless steel bowls (one for chemistry sampling and one for radiochemistry sampling) based on the prescribed sampling segment intervals

shown on Tables 6-2 and 6-4 in the RIWP. Thoroughly mix (homogenize) the sediment in the center of each of the stainless steel bowls until color and texture differences are no longer detected. Proceed to Step 21.

In cases where the sample intervals do align, thoroughly mix (homogenize) sediment in the center of the stainless steel bowl until color and texture differences are no longer detected.

Fill pre-labeled sample jars for remaining chemical, geotechnical, and/or radiochemical analyses, in accordance with SOP No. 9 – Containers, Preservation, Handling, and Tracking of Samples for Analysis. Confirm that the sample identification has been recorded in the Sample Processing Form.

If determined necessary by the Sample Processing Area personnel, the individual sample bottles may be weighed to ensure appropriate sample volume for lab analysis as prescribed by Table 6-6 in the RIWP.

Remaining sediment and core tube lengths will be stored or disposed of in accordance with SOP No. 7 – Management and Disposal of Residuals.

#### **4.2.54 COLLECTION OF QUALITY ASSURANCE SAMPLES**

##### **4.2.54.1 FIELD QUALITY CONTROL (QC) SAMPLES**

QC samples will be collected during core sample processing. QC samples will be labeled, maintained, and transported in accordance with SOP No. 9-5 – Containers, Preservation, Handling, and Tracking of Samples for Analysis. QC samples will include rinsate-field blanks and field duplicate samples. The QC samples will be collected at the frequency specified in Table 9-4 Table 6 of the Phase III RIWP/QAPP.

##### **4.2.54.2 RINSATE-FIELD BLANKS**

For the core processing, one rinsate-field blank will be collected and submitted for testing each day a decontamination event is carried out (not to exceed one per day). The procedures for the collection of rinsate-field blanks are described in SOP No. 4-3 – Decontamination. The parameters that are being analyzed in the rinsate-field samples are listed in Table 9-17 of the Phase III RIWP/QAPP. The rinsate-field blank sample is labeled, maintained, and transported in accordance with SOP No. 9-5 – Containers, Preservation, Handling, and Tracking of Samples for Analysis.

##### **4.2.54.3 TRIP BLANKS**

Trip blanks are sealed containers of analyte-free water provided by the analytical laboratory and carried with the field sample bottles during the sampling event. When the sampling event has ended, the trip blanks are labeled and returned to the laboratory along with representative field samples. Trip blanks will be processed for VOCs, mercury, and methylmercury (only) at a frequency of one for each cooler shipped from field to laboratory which contains VOC, mercury, and methylmercury field samples.

##### **4.2.54.4 FIELD DUPLICATE SAMPLES**

Field duplicate samples will be collected following the same procedures as the collection of samples for

~~chemical, radiochemical and geotechnical analyses.~~ One field duplicate sample will be collected for every 20 field samples (per matrix and per method). The duplicate samples will be labeled, maintained, and transported in accordance with SOP No. ~~9-5~~ – Containers, Preservation, Handling, and Tracking of Samples for Analysis.

#### **4.2.54.5 LABORATORY QUALITY CONTROL SAMPLES**

Matrix spike/matrix spike duplicates (MS/MSD) are required as laboratory QC tests for organic and ~~Lead-210~~ analyses. Matrix spike/duplicates (MS/DUP) are required as laboratory QC tests for metals and cyanide analyses. ~~A laboratory duplicate (laboratory DUP) is required for Beryllium-7 and Cesium-137 analyses.~~ Within each Sample Delivery Group (SDG), one MS/MSD (for organic and <sup>210</sup>Pb analysis), and one MS/DUP (for inorganic analysis), ~~and one laboratory DUP (for <sup>7</sup>Be and <sup>137</sup>Cs analyses)~~ must be collected for each analytical group submitted. It is not necessary that the MS/MSD or MS/DUP be derived from the same sample. Therefore, field personnel will designate a sediment sample from each SDG to be used for these analyses for each analytical method. Minimum sample analysis mass requirements, as well as additional Laboratory QC sample mass requirements, are provided in ~~Table 6-6~~ Worksheet 19-2 of the Phase III ~~RWP~~ QAPP.

## 5.0 QUALITY ASSURANCE

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Completing the Core Lithology/Description Form and Sample Processing Form provided in ~~SOP No. 8 – Field Documentation~~ this SOP, will document that the process is being followed and pertinent information is being collected and recorded in accordance with the procedures outlined in this SOP. Entries in the forms and logbook will be double-checked by the samplers to verify the information is correct. Completed forms will be reviewed periodically by the FC and/or Project Quality Assurance Officer or their designees to verify that the requirements are being met.

## 6.0 DOCUMENTATION

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Field notes will be kept during core processing activities in accordance with SOP No. 8 – Documenting Field Documentation Activities. The core weights and sample weights (if collected) will be recorded in the logbook. In addition, the following core photologging information should also be included in the logbook (at a minimum):

- Photograph number;
- Time of photograph;
- Core number;
- Depth interval shown in the picture;
- Photographer's name; and
- Unusual observations.

## **7.0 REFERENCES**

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Tierra. 2007. Newark Bay Study Area Remedial Investigation Work Plan [Rev. 1]. Volume 2 Health and Safety/Contingency Plan. September.

**CORE LITHOLOGY/DESCRIPTION FORM**  
**PHASE III SEDIMENT INVESTIGATION**  
(Sheet 1 of 2)

I.	Date of Core Collection: _____ (1) _____ (from Individual Core Collection Form)
II.	Date of Core Processing: _____ (2) _____
III.	Core ID: _____ (3) _____ (from Individual Core Collection Form)
IV.	Physical Description: _____ (4) _____ (from Core Collection Form)
V.	Coordinates: Coordinate Northing (ft, NAD 83): _____ (5) _____ (from Individual Core Collection Form) Coordinate Easting (ft, NAD 83): _____ (6) _____ (from Individual Core Collection Form)
VI.	Name of Person Responsible for Log: _____ (7) _____

**CORE LITHOLOGY/DESCRIPTION FORM**  
**PHASE III SEDIMENT INVESTIGATION**  
 (Sheet 2 of 2)

Date of Core Collection: \_\_\_\_\_ (1) Date of Core Processing: \_\_\_\_\_ (2)

Core ID: \_\_\_\_\_ (3)

**Breathing Zone Action Levels:**

For total hydrocarbon levels > 5 ppm, upgrade to Level C PPE.

For total hydrocarbon levels > 25 ppm, stop work.

For hydrogen sulfide levels > 5 ppm, stop work, evacuate work area, and ventilate.

Depth (Feet Below Sediment Surface in Core)	PID Screening (ppm)	Description	Engineer's/Geologist's Notes
(8)	(9)	(10)	(11)
0.0			
-			
0.5			
-			
1.0			
-			
1.5			
-			
2.0			

**Note:**

Lithology depth intervals are recorded as directly read from the ruler or measuring tape in the sample processing lab. Therefore, recorded depths are representative of laboratory recovery depth values and do not correspond with sediment sample depth intervals, which were adjusted to match penetration depths.

**CORE LITHOLOGY/DESCRIPTION FORM KEY**  
**PHASE III SEDIMENT INVESTIGATION**  
**(Sheet 1 of 1)**

**DESCRIPTION OF ITEMS:**

- (1) Date of core collection (taken from the Individual Core Collection Form).
- (2) Date of core processing (e.g., 1/1/2010).
- (3) Core ID (taken from the Individual Core Collection Form).
- (4) Physical description of core location.
- (5) Northing coordinate in feet of core collection location (taken from the Individual Core Collection Form).
- (6) Easting coordinate in feet of core collection location (taken from the Individual Core Collection Form).
- (7) Name of person entering information into this form.
- (8) Depth (feet below the sediment surface) of change in lithology and Unified Soil Classification System (USCS) description identified during logging.
- (9) PID reading in ppm for the breathing zone above the interval screened (e.g., 6 ppm).
- (10) Description of soil type using the USCS charts.
- (11) Provide notes pertinent to the sample description (e.g., 1" gap observed in this interval) for a given lithological interval.

**SAMPLE PROCESSING FORM**  
**PHASE III SEDIMENT INVESTIGATION**  
**(Sheet 1 of 3)**

I.	Date of Core Collection: _____ (1) _____ (from Individual Core Collection Form)
II.	Date of Core Processing: _____ (2) _____
III.	Core ID: _____ (3) _____ (from Individual Core Collection Form)
IV.	<p><del>Geomorphic Area (circle one): _____ (4) _____ (from Individual Core Collection Form)</del></p> <p><del>_____ Southern Navigation Channels (South of Port Newark)</del></p> <p><del>_____ Northern Navigation Channels (North of Port Newark)</del></p> <p><del>_____ Port Channels</del></p> <p><del>_____ Transitional Slopes</del></p> <p><del>_____ Sub-tidal Flats</del></p> <p><del>_____ Inter-tidal Areas</del></p> <p><del>_____ Industrial Waterfront Area</del></p> <p><del>_____ Potential High Net Deposition Area</del></p>
IV.	<p><u>Primary Core:</u> _____ (54) _____</p> <p>Coordinate Northing (ft, NAD 83): _____ (65) _____ (from Individual Core Collection Form)</p> <p>Coordinate Easting (ft, NAD 83): _____ (76) _____ (from Individual Core Collection Form)</p> <p>Actual Penetration (ft): _____ (87) _____ (from Individual Core Collection Form)</p> <p>Recovery (ft) During Core Collection: _____ (98) _____ (from Individual Core Collection Form)</p> <p>Recovery (%) During Core Collection: _____ (109) _____ (from Individual Core Collection Form)</p> <p>Recovery (ft) During Core Processing: _____ (110) _____</p> <p>Recovery (%) During Core Processing: _____ (121) _____</p> <p style="text-align: right;">Recovery (ft) During Core Processing - Gaps (ft)</p> <p>Recovery (%) During Core Processing = _____ x 100</p> <p style="text-align: center;">Actual Penetration (ft)</p>

**SAMPLE PROCESSING FORM**  
**PHASE III SEDIMENT INVESTIGATION**  
**(Sheet 2 of 3)**

I.	Date of Core Collection: _____ (1) _____ (from Individual Core Collection Form)
II.	Date of Core Processing: _____ (2) _____
III.	Core ID: _____ (3) _____ (from Individual Core Collection Form)
IV.	<u>Secondary Core:</u> _____ ( <del>4</del> <u>12</u> ) Coordinate Northing (ft, NAD 83): _____ ( <del>44</del> <u>13</u> ) _____ (from Individual Core Collection Form) Coordinate Easting (ft, NAD 83): _____ ( <del>45</del> <u>14</u> ) _____ (from Individual Core Collection Form) Actual Penetration (ft): _____ ( <del>46</del> <u>15</u> ) _____ (from Individual Core Collection Form) Recovery (ft) During Core Collection: _____ ( <del>47</del> <u>16</u> ) _____ (from Individual Core Collection Form) Recovery (%) During Core Collection: _____ ( <del>17</del> <u>8</u> ) _____ (from Individual Core Collection Form) Recovery (ft) During Core Processing: _____ ( <del>19</del> <u>18</u> ) _____ Recovery (%) During Core Processing: _____ ( <del>20</del> <u>19</u> ) _____  Recovery (%) During Core Processing = $\frac{\text{Recovery (ft) During Core Processing} - \text{Gaps (ft)}}{\text{Actual Penetration (ft)}} \times 100$
VII.	Name of Person Responsible for Log: _____ ( <del>21</del> <u>20</u> ) _____

## SEDIMENT AND GEOTECHNICAL INVESTIGATION

Date of Core Collection: \_\_\_\_\_ (1) \_\_\_\_\_ (from Individual Core Collection Form)

Date of Core Processing: \_\_\_\_\_ (2)

Core ID: \_\_\_\_\_ (3) \_\_\_\_\_ (from Individual Core Collection Form)

[illegible]

**SAMPLE PROCESSING FORM KEY**  
**PHASE II SEDIMENT INVESTIGATION**  
**(Sheet 1 of 2)**

**DESCRIPTION OF ITEMS:**

- (1) Date of core collection (taken from the Individual Core Collection Form).
- (2) Date of core processing (e.g., 1/1/2006).
- (3) Core ID (e.g., NS02SED090B) (taken from the Individual Core Collection Form).
- ~~(4)~~ ~~Geomorphic areas; circle appropriate (taken from the Individual Core Collection Form).~~
- ~~(5)~~(4) The chemical analysis core is the core from which sediment is being taken for chemical analysis.
- ~~(6)~~(5) Northing coordinate in feet of core collection location (taken from Individual Core Collection Form).
- ~~(7)~~(6) Easting coordinate in feet of core collection location (taken from Individual Core Collection Form).
- ~~(8)~~(7) Actual penetration of core into sediment (taken from the Individual Core Collection Form).
- ~~(9)~~(8) Recovery (ft) at time of core collection = sediment length in core at the time of core collection (taken from the Individual Core Collection Form).
- ~~(10)~~(9) Recovery (%) at time of core collection = sediment length at the time of core collection in core per actual penetration (taken from the Individual Core Collection Form).
- ~~(11)~~(10) Recovery (ft) at time of core processing = sediment length in core at the time of processing.  
Note: the length of sediment in the core and the recovery may be different than listed on the Individual Core Collection Form due to additional consolidation of sediments within the core between the time cored and time processed.
- ~~(12)~~(11) Recovery (%) during core processing = sediment length at the time of processing per actual penetration.
- ~~(13)~~(12) The radiochemical analysis core is the core from which sediment is being taken for radiochemical analysis.
- ~~(14)~~(13) Northing coordinate in feet of core collection location (taken from Individual Core Collection Form).
- ~~(15)~~(14) Easting coordinate in feet of core collection location (taken from Individual Core Collection Form).
- ~~(16)~~(15) Actual penetration of core into sediment (taken from the Individual Core Collection Form).

**SAMPLE PROCESSING FORM KEY**  
**PHASE II SEDIMENT INVESTIGATION**  
**(Sheet 2 of 2)**

~~(17)~~~~(16)~~ \_\_\_\_\_ Recovery (ft) at time of core collection = sediment length in core at the time of core collection (taken from the Individual Core Collection Form).

~~(18)~~~~(17)~~ \_\_\_\_\_ Recovery (%) at time of core collection = sediment length at the time of core collection in core per actual penetration (taken from the Individual Core Collection Form).

~~(19)~~~~(18)~~ \_\_\_\_\_ Recovery (ft) at time of core processing = sediment length in core at the time of processing.

~~(20)~~~~(19)~~ \_\_\_\_\_ Recovery (%) at time of core processing = sediment length at the time of processing per penetration.

~~(21)~~~~(20)~~ \_\_\_\_\_ Name of person entering information into this form.

~~(22)~~~~(21)~~ \_\_\_\_\_ Sample ID (e.g., NS02SED090B-02); refer to SOP No. 9, Section 4.2.1, for sample identification code.

~~(23)~~~~(22)~~ \_\_\_\_\_ Time sample was removed from core (24-hour format).

~~(24)~~~~(23)~~ \_\_\_\_\_ Sample interval = target sample interval depths multiplied by Recovery (%) at time of core processing. For example, if target sample interval is 0.5 - 1.5 feet and the Recovery (%) at time of core processing is 80%, then the sample interval would be 0.4 - 1.2 feet.

~~(25)~~~~(24)~~ \_\_\_\_\_ Check the boxes for which analyses the sample is being submitted.

~~(26)~~~~(25)~~ \_\_\_\_\_ Provide any pertinent comments regarding the sediment sample submitted for analyses (e.g., not enough sample volume; therefore, TEPH and TOC not requested for analysis).